5 a c a a a a The invention concerns a method and a device for automatically adapting the levels of signals exchanged in a telephone network, between a first set and a second set. The method is characterised in that it consists in the following steps: digitising the signal (OUT2) coming from the transmission line (6)—and received by the first set (2); on the basis of the digital data translating the signals (IN1, OUT2) exchanged with the transmission line (6); estimating the transfer function (K) equal to the ratio of the signal (OUT2) received by the first set over the signal (IN1) transmitted by the first set; respectively multiplying each of the exchanged signals (IN1, OUT2)—by an appropriate gain (G1, G2) determined on the basis of the estimated value of said transfer function (K). The invention is particularly applicable to telephones, videophones, fax machines or computers connected to a communication network.

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